United Nations A/54/176

General Assembly

Distr.: General
21 July 1999

Original: English

Fifty-fourth session
Item 125 of the provisional agenda*
Pattern of conferences

Provision of interpretation services to other locations from permanent interpretation structures in New York, Geneva, Vienna and Nairobi

Report of the Secretary-General

Summary

Continuous remote simultaneous interpretation during a typical session of an intergovernmental body is a viable alternative to on-site servicing, provided that certain technical, financial and human resources conditions are met. Technical requirements have been sufficiently defined. The financial viability of remote interpretation and its human resource implications, however, have not been established with certainty and further research is needed.

* A/54/150

99-21572 (E) 300799

I. Introduction

1. The present report is submitted in compliance with paragraph 20 of General Assembly resolution 53/208 A of 18 December 1998, in which the Assembly requested the Secretary-General, without prejudice to the practices currently used to meet interpretation requirements, to examine the provision of interpretation services to other locations from permanent interpretation structures based in New York, Geneva, Vienna and Nairobi and to report thereon to the General Assembly at its fifty-fourth session. In order to meet the request of the Assembly, the information and experience available in the field of remote interpretation has been gathered and is presented in part II of the present document. In part III, the financial aspects of remote interpretation are explored, taking into account the equipment and communications requirements of good quality remote interpretation.

II. Activities undertaken so far in the field of remote interpretation

2. The basic technical feasibility of remote interpretation was established in the course of three experiments conducted between 1976 and 1982, during the nineteenth session of the General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO) (Nairobi, 1976), the United Nations Conference on Technical Cooperation among Developing Countries (Buenos Aires, 1978) and the United Nations Conference on the Exploration and Peaceful Uses of Outer Space (Vienna, 1982). The three experiments used costly satellite links and lasted only a few hours. As long as resort to expensive satellite communications was required, remote interpretation was not considered a financially viable proposition. The introduction of high-capacity digital telephone lines (the integrated services digital network, or ISDN) brought about a significant lowering of communications costs and prompted consideration of remote interpretation as a possible means of increasing cost-effectiveness in the use of staff resources and improving the actual utilization of physical meetings facilities in different conference centres.

3. In order to move beyond the limited nature of earlier experiments and to reach meaningful conclusions, a comprehensive feasibility study of large-scale remote interpretation, conducted in a concerted fashion by the interpretation services at Headquarters and the United Nations Offices at Geneva and Vienna, was needed. The study had to cover the impact of new technology on the quality of services and the working conditions of staff, to deal with a wide range of interpreting situations and to cover a longer period of time than past experiments.

4. To this end, it was decided that a full two-week session, held at one of the established United Nations conference centres, would be serviced using remote interpretation provided from another centre. This would constitute the first experiment ever conducted on such a large scale and in conditions under which interpreters would be required to work in complete isolation from the reality of the event for which they would be interpreting. The experiment would test the reliability of the technology and determine the cumulative effect of remote interpretation on the work of the interpreters and other conference servicing staff, as well as on participants at the meeting.

5. The idea of using Headquarters as either the receiver or provider of the remote services was discarded because the time difference was considered an unnecessary complication in the context of the experiment. In view of the advisability of increasing the use of conference rooms at the United Nations Office at Nairobi, the possibility of the remote servicing of a meeting to be held there was considered but could not be pursued because there are no ISDN services to Nairobi. This left the combination of the United Nations Offices at Geneva and Vienna. It was decided that Vienna would service a meeting taking place at Geneva, and not the reverse, because the permanent interpretation establishment at Geneva was large enough to provide for almost immediate back-up in case of a communications or other technical failure.

6. It was assumed that not all meetings would lend themselves equally well to remote interpretation. Highly structured meetings, with little or no spontaneous interaction among participants, such as general debates, would be best suited for remote interpretation. The opposite would be the case of meetings with constant interaction, such as small discussion and drafting groups. The meeting chosen for the experiment should ideally offer a wide variety of interpreting situations along this continuum. It also had to use all six official languages in order to test relays between languages and to assess the effects of remote interpretation on participants using different languages.

7. Considering these factors and the availability of interpretation staff at Headquarters, Geneva and Vienna, the session of the Working Group on a draft optional protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography, which was held at Geneva from 25 January to 5 February 1999, was identified as a suitable meeting for the implementation of the

experiment, conducted with the participation of interpretation staff from all three duty stations. The experiment was observed by members of the relevant services of the Food and Agriculture Organization of the United Nations (FAO), UNESCO, the International Civil Aviation Organization (ICAO), the International Telecommunication Union (ITU), the Organisation for Economic Cooperation and Development (OECD), the European Commission and the European Parliament, as well as by representatives of the International Association of Conference Interpreters and the University of Vienna.

8. The minimum technical requirements for good quality remote interpretation and the resulting general technical set-up used for the experiment are described in paragraphs 17 and 18 below. In addition to the information provided there, mention must be made of the fact that the United Nations Office at Vienna endeavoured to replicate, at the remote location, the conditions of on-site servicing, in particular to ensure the prompt transmission to interpreters of all new documents as soon as they became available to participants. Staff referred to as "remote interpretation assistants" in the context of the experiment worked from a booth contiguous to the remote interpreters' booths where equipment had been installed providing access to phone, facsimile and computer services, thus ensuring voice and data communications between the servicing site and the venue of the meeting. Documents originating in Geneva were received promptly and were photocopied and distributed to the interpreters.

9. Visual information was transmitted to the remote interpreters by means of two identical videoconferencing systems and was projected onto large screens. One projector provided a permanent view of the meeting room with a view of the presiding officer blended into one quadrant. The other projector received images from one of two cameras, which were switched, under operator control, to provide the best possible view of the speakers. The use of video monitors in the interpreters' booths was discarded because they produce fan noise and heat.

10. At Geneva, the interpretation coming from Vienna was fed into the conference room sound distribution system. Additionally, the system had a feature to accommodate speakers who listened to their headsets while speaking. If the sound had been sent to Vienna, from where it would have been retransmitted back to Geneva, the speaker would have heard himself with a 0.5 seconds delay. A relay system bypassed this loop. The substantive secretariat of the meeting and the participants cooperated fully.

11. The session of the Working Group was held without any disruptions, with interpretation provided at all times by the team of interpreters working at Vienna. The Working Group held 17 out of the 20 meetings programmed. With the exception of the three cancellations and some late starts, the session followed established schedules, with no requests for additional meetings. Its proceedings were mostly unstructured, with long periods of time devoted to drafting work and recesses. The meetings were easier to interpret than the average meeting. At the end of the session, participants were asked to answer a questionnaire on the interpretation services provided. Thirty-three replies were received. The quality of the sound was judged the same as that provided at on-site servicing by 75 per cent of the respondents, worse by 22 per cent and better by 3 per cent. The quality of the interpretations was rated the same as on-site servicing by 94 per cent of the respondents and worse by 6 per cent. The absence of interpreters from the conference room did not bother 84 per cent of the respondents and bothered 16 per cent.

12. Extensive information was gathered from the interpreters who worked during the experiment on the physical conditions of their work (sound and image transmissions, camera operation, screen placement, services of support staff), as well as personal conditions (stress, concentration, fatigue, motivation, perceived quality of one's own work, alienation from the conference room and the meeting location). In order to track patterns along the session and to detect any cumulative effects, interpreters completed questionnaires at the end of each meeting and one more general questionnaire at the end of the session. Analysis of the data indicated that the replies were consistent and provided reliable information pointing to increased stress and fatigue and less satisfaction with one's own performance.

13. The conclusions derived from the experiment are summarized in the following paragraphs. The experiment has shown that, during a continuous period of two weeks, meetings held at one location were successfully serviced by interpreters, technicians and meeting room personnel located at a remote location, without disruptions to the participants and to their nearly complete satisfaction. It has been established that sound of a quality very close to the standard requirements for simultaneous interpretation can be reliably transmitted using the required number of ISDN links. Some of the adjustments that need to be made to the organizational arrangements and, in particular, to the functions and working environment of meeting room attendants at the interpreting site are now better understood, pointing to the need for support personnel with adequate skills in the use of telecommunications and computer equipment.

14. Findings concerning the nature of the meetings most suitable for remote servicing remain inconclusive. Contrary to what had been assumed, unstructured debates did seem to lend themselves to remote interpretation. During the experiment, however, there were no heated exchanges and few opportunities to cope with fine shades of meaning and precise choice of words. In addition, there were few statements in Arabic and Chinese, and many interpreters did not have the experience of working in relay. There were no last minute changes to the schedule of meetings and no additional, standby or night meetings were requested. Therefore, it cannot be said that the full range of interpreting situations were tested.

15. The experiment highlighted the differences in the physical working environment for interpreters between remote and on-site interpretation. Quality of sound was considered good and new documents were received very promptly. Interpreters were very appreciative of the close-up view of the speakers provided by the video transmissions, which enhanced their understanding of the speaker's meaning. On the other hand, interpreters had no control of the images other than those of the speakers that were projected and they tended to lose concentration when certain views of the room were selected for them by a camera operator at a time not of their choosing. In general, the video component of remote interpretation requires further refinement.

16. In their comments, the interpreters emphasized that they were able to maintain performance at acceptable levels, but at a higher psychological and physiological cost. Remote interpretation over a two-week period has a cumulative effect on health, pointing to stress, fatigue, eyestrain, loss of concentration, lack of motivation and overall anxiety, but the experiment did not measure these variables, which would have required medical expertise. Further information needs to be gathered in this connection. Since it could be argued that if the video component of the experiment had been as successfully implemented as the sound component the health impact could have been less significant, in future experiments both sound and image must be the best that available technology can offer.

III. Financial and technical issues and forthcoming activities

17. In order to get a very general picture of the comparative cost-effectiveness of each servicing modality, certain assumptions and highly approximate estimates have been made. The general principles are that: (a) in order to be both financially viable and of sufficient quality for simultaneous interpretation, communications for remote interpretation require the use of ISDN lines for the transmission of both audio and video; and (b) under the International Standards Organization standards applicable to simultaneous interpretation equipment, the minimum sound bandwidth acceptable for interpretation purposes is 12.5 kHz. The communications requirements specified below are based on these general principles and are identical to the arrangements in place during the experiment described in part II above.

18. The floor sound should be transmitted to the remote interpreters using a bandwidth of 20 kHz by means of an ISDN codec in high quality compression mode. The interpretations are transmitted back to the participants in the meeting via two ISDN codes but using less bandwidth. Two Picture Tel videoconferencing systems are used to transmit visual information from the conference room to the remote interpreters. This requires the use of 10 128 kbps ISDN lines altogether — each of the two video channels uses three lines, and each of the three voice codecs uses one line, plus one spare line.

19. It is customary for sessions of intergovernmental bodies and conferences to last two weeks. Although actual meeting time varies from case to case, it is assumed that during a two-week period, 20 meetings of three hours each are held. A three-hour meeting requires a three-and-a-half-hour connection to allow for checking before the actual opening of the meeting. This typical session, therefore, would require ISDN links for a total of 4,200 minutes.

20. ISDN rates vary widely. For one 64 kbps line, average rates for communications originating in the United States of America with 48 countries currently range from US$ 0.23 to $1.95 per minute. Therefore, depending on location, the cost of 10 128 kbps lines for 4,200 minutes, which is the link that a typical session or conference would require, can range from $19,320 to $163,800. The communications costs during the experiment conducted earlier this year between Geneva and Vienna amounted to about $23,500. Since 17 meetings were held, assuming the need for a 210-minute connection for each, the unit cost was roughly $0.33 per minute.

21. On-site servicing of a two-week session or conference comprising 20 meetings would require the presence of 20 interpreters and, for the purpose of this comparison, it is assumed that they are not available at the meetings location. Travel and terminal expenses and daily subsistence allowances (DSA) would also vary considerably depending on the location of the conference as well as the place of recruitment of freelance staff specifically for the meetings

in question or the duty station where regular staff might be available.

22. It is assumed that the established offices most likely to be involved in any possible combination of remote servicing arrangements are the United Nations Offices at Geneva, Vienna and at Nairobi (see para. 27 below). As indicated in the June 1999 DSA circular issued by the International Civil Service Commission (ICSC/CIRC/DSA/289), current DSA rates are $170 in Vienna, $184 in Geneva and $188 in Nairobi, the average of these three amounts being $181. The team of 20 interpreters travelling to service a two-week conference would be paid allowances over a period of at least 13 days and, if the average of $181 is used, total expenditures on this account would amount to at least $47,060.

23. A comparison limited exclusively to DSA costs and ISDN costs, therefore, would indicate that, for a two-week conference using six languages at a location where no interpreters were available, remote interpretation could become cost-effective roughly if ISDN rates were under the level of $0.56 per minute for one 64 kbps line, that is $47,060 - 84,000 (4,200 minutes x 2 x 10 lines). Current information for communications originating in the United States indicates that international ISDN rates are lower than $0.56 per minute in 19 countries (Australia, Canada, Chile, Japan and 15 countries in Europe) out of a group of 48 countries for which information was obtained. As a rule, communications originating in countries in Europe would be more expensive than in the United States. It may be of interest to note that, on the basis of this very limited comparison, the remote servicing from New York of meetings held in Jamaica would be more expensive than on-site servicing with non-local interpreters, since the current DSA for Jamaica is $155, with an ISDN rate of $0.85.

24. These are obviously crude comparisons. Since it is impossible to make assumptions about many servicing requirements, this oversimplification assumes that any other costs impacting either one of the terms of the equation would balance each other out. Any savings in interpreters' travel expenses, for example, would be counterbalanced by additional costs, such as camera operators' salaries, the salary of assistants at the remote site providing interpreters with the help that they receive from conference room staff normally available when working on-site, facsimile costs for the transmission to interpreters of documents originating at the conference site, telephone traffic between the meeting and the remote interpreters and perhaps a number of incidentals impossible to foresee.

25. As a matter of fact, it is not likely that a definite statement can be made in the near future about the general comparative cost-effectiveness of each servicing modality. Costs will vary depending on the combination of sites being considered, the number of languages and the length of the conference, three items than can impact greatly on the relevance of "fixed" costs like travel. Far from having any cost advantages, remote interpretation would evidently be an expensive proposition — unless there are unutilized interpreters at the meetings location — if it is decided that the risk of interruptions in the normal conduct of meetings as a result of communications failures should be avoided completely and on-site interpretation redundancy is essential.

26. This last item points to a crucial factor in the present discussion. In a global situation characterized by the limited availability of interpreters at peak periods during the year and by staffing arrangements based on the premise that permanent resources should be provided at a level lower than overall yearly demand, with routine recourse to temporary staff not always available locally even at well-established servicing sites, the cost-effectiveness of remote interpretation would depend basically on a higher degree of harmonization of the calendar of meetings at different duty stations. So far, the meetings requirements of international organizations have not made this possible. Another variable can be equally relevant. If remote interpretation proves more stressful for interpreters than on-site servicing, as indicated by the experiment described in part II of the present report, a reduction in normally expected workloads or a greater rotation of interpreters may need to be envisaged, with more staff becoming necessary than for on-site servicing.

27. In view of these considerations and given present circumstances, if remote interpretation is adopted, the United Nations Office at Geneva should perhaps be considered the most likely provider of services. The pool of interpreters available locally is greater in Geneva than in any other established conference centre, a situation that will most likely also prevail in the future. Furthermore, "vacant" meeting rooms with existing interpretation booths that could be used for remote servicing are available in Geneva. Conversely, at Headquarters, the pool of local staff is more limited and there are practically no meeting rooms unutilized, except during a few weeks around the year. Additionally, time differences make remote interpretation between Africa or Europe and North America more problematic and possibly more expensive, if staff or contractual technical personnel entitled to overtime payments need to work outside normal hours. The United Nations Office at Vienna has only one interpretation team,

which is incomplete, and has vacancies that have been impossible to fill. For the United Nations Office at Vienna to become a cost-effective provider of remote interpretation services, its staff resources would have to be strengthened and their adequate utilization would then have to be ensured. The United Nations Office at Nairobi does not have interpretation services and meetings held there are serviced by non-local interpreters. It could become a prime recipient of remote interpretation services, but Nairobi is not ISDN-connected.

28. The Mercure satellite available to the United Nations Office at Nairobi can perhaps be used to emulate ISDN communications. Preliminary investigations conducted from Vienna, however, indicate that technical obstacles remain to be overcome. In view of these circumstances, and seeking to gather more information on all aspects of the question of remote interpretation in the technical, financial and human resources fields, it has been provisionally decided to organize another experiment, as comprehensive as the one conducted earlier this year, but now entailing the servicing from Geneva of a two-week meeting to be held at Nairobi as early as possible in 2000. A determination will need to be made, however, of the suitability of Mercure-based communications for remote interpretation.

IV. Conclusions

29. Recent interest in remote simultaneous interpretation of intergovernmental meetings involving large number of participants has been prompted by several factors, including the need to ascertain whether more cost-effective alternatives to current methods of work exist, the attempt to improve the utilization of existing conference centres in certain locations, the use of remote servicing techniques in related conference-servicing activities, including videoconferencing, and the advent of new low-cost communications links. The amount of experience and knowledge in the field, however, is still quite limited, not allowing even for estimations of the relative cost advantages of remote versus on-site interpretation beyond ad hoc cases.

30. Inter-agency contacts indicate that interest in remote simultaneous interpretation is shared by all international organizations, both within and outside the United Nations system. Remote interpretation, however, has not been adopted or tested on a sufficiently large scale by any of them. The United Nations is the only organization that has conducted an experiment on the use of remote simultaneous interpretation from two different countries and covering more than isolated meetings, or sessions spanning two or three days. The results of the experiment have been very promising in some aspects. In others, they have underlined deficiencies in the arrangements used for remote servicing so far. In still others, they have been inconclusive and have pointed to the need for further research.

31. Another experiment should be conducted in order to build on the results achieved by the experiment that took place early in 1999 and to gather missing information on relevant technical, financial and human resources issues. It should encompass the remote servicing of a full-scale intergovernmental meeting, with six languages, preferably to be held at the United Nations Office at Nairobi, where existing conference facilities are underutilized. It is intended to conduct this experiment as early as possible in 2000.